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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Replacement of Part 90 by	)	
Part 88 to Revise the Private	)	
Land Mobile Radio Services	)	
and Modify the Policies	)	
Governing Them	)	
	)	
and	)	PR Docket No. 92-235
	)	
Examination of Exclusivity	)	
and Frequency Assignment	)	
Policies of the Private	)	
Land Mobile Radio Services	)	

To: The Commission

COMMENTS OF AFFILIATED AMERICAN RAILROADS ON ITA "BLUEPRINT"

AFFILIATED AMERICAN RAILROADS

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Date: February 7, 1997

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SUMMARY

The Industrial Telecommunications Association, Inc. ("ITA") should be commended for taking the initiative in developing the "Proposed Technical Blueprint for Frequency Use Limitations in the Post-Refarming Environment" (the "Blueprint"). This proposal should prove useful to the Commission as it finalizes its post-refarming rules.

The railroads particularly applaud ITA for recognizing the need for special provisions to ensure the integrity and safety of the Nation's railroads. Railroads have unique operational and safety requirements which necessitate instant access to clear, contiguous channels, and which also dictate that railroads have some measure of control over which other users have access to railroad radio frequencies. The consolidation of the frequencies comprising the Railroad Radio Service with those of other user groups would endanger the safe operation of the railroads.

In its Blueprint, ITA recognized the unique operational needs of the railroads and proposed certain "protections" purportedly to meet these needs. However, the "protections" proposed by ITA would not adequately protect the railroad radio frequencies from harmful interference. First, the geographic scope of the "protection" proposed in the Blueprint is inadequate. The mileage approach (50-mile radius in the top 50 cities) and the 37/39 dBu contour approach both fail to take into account the interference effects of anomalous and normal line of sight propagation. As a result, under either of these "protection" proposals, railroad users will experience harmful interference from the signals of non-railroad base stations.

Second, the Blueprint's contour-specific "protection" proposal fails to protect all existing and future railroad channels for railroad use, thus precluding the use of multiple frequencies in the future by a multi-frequency trunked railroad radio system. Moreover, the contour-specific "protection" proposal would not provide railroad users with adequate protection from harmful interference, even if all railroad channels were "protected" at the location of each railroad base station.

Third, ITA does not provide sufficient justification for limiting the "protection" for railroad frequencies to five years. Moreover, the five-year limitation is inexplicably inconsistent with the protections ITA proposed for certain other services requiring special protection.

Finally, the railroads request herein that the Commission adopt their proposed modifications to ITA's proposed Limitation 16 of the Frequency Table Limitations. The proposed modification would preserve the opportunity for sharing railroad frequencies in a manner identical to the provisions of the Commission's current interservice sharing rules. This process has been successful, and the railroads have accommodated hundreds of sharing requests from non-railroad users.

The need to maintain the Railroad Radio Service as a distinct group of frequencies is crucial to the continued safe operation of the Nation's railroads. The Commission must heed the advice of the entities who are experienced in railroad safety matters -- the railroads themselves, the National Transportation Safety Board and the Federal Railroad Administration -- all of whom have urged the Commission to preserve intact the railroad industry's unfettered access to mobile radio frequencies that are essential for safe train operations.

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To: The Commission

COMMENTS OF AFFILIATED AMERICAN RAILROADS ON ITA "BLUEPRINT"

The Affiliated American Railroads,[1/] by their undersigned counsel, hereby submit their Comments in response to the "Proposed Technical Blueprint for Frequency Use Limitations in the Post-Refarming Environment" (the "Blueprint") filed by the Industrial Telecommunications Association, Inc. ("ITA").[2/]

1/ Affiliated railroads consist of several Class I railroads operating in the U.S. and Canada, all of whom rely extensively on land mobile communications systems operating in frequencies in the present Railroad Radio Service.

2/ By Public Notice on January 28, 1997, the Commission requested comment on ITA's Proposed Blueprint. Public Notice, FCC 97-206, (Released January 28, 1997).

I. INTRODUCTION

ITA is to be commended for taking the initiative in developing the Blueprint for the post-refarming environment; in particular, the railroads applaud ITA for recognizing the need for special provisions to ensure the integrity and safety of railroad operations. However, for the reasons described below, ITA has not gone far enough to ensure that railroad operations are protected from harmful interference from other Private Land Mobile Radio ("PLMR") users.

ITA's Blueprint sets forth the allocation of PLMR frequencies, incorporating the new channels created as a result of refarming based on a two-pool structure, with PLMR users divided between "Private Wireless Services" and "Public Safety Services."[3/] Under the ITA plan, the railroad frequencies would be included in the Private Wireless Pool.[4/]

The railroads' primary concern throughout this proceeding has been the safety of railroad operations and protection of railroad mobile radio communications from harmful

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3/ Blueprint at 3. One week after ITA submitted its Blueprint, UTC, the Telecommunications Association ("UTC"), submitted its plan entitled "Twenty is Divisible by Three: UTC's Three-Pool Consolidation Plan for the Private Land Mobile Bands Below 512 MHz," dated January 28, 1997 (the "UTC Plan"). As its name indicates, the UTC Plan advocates consolidation of the existing PLMR service pools into three pools: Emergency Response; Public Service; and Business/Commercial. Under the UTC Plan, railroad radio communications would be included under the Public Service Pool. The railroad industry expresses no opinion as to the desirability of consolidating the PLMR systems into two or three pools. Rather, the railroads stress that it is imperative that existing railroad channels (and any new channels created from them as a result of refarming) be preserved for use solely by railroads (except for sharing with other users according to the existing interservice sharing procedures (Section 90.176) whereby the railroads have a say in who else will use their frequencies and where).

4/ Id. at 4.

interference. The unique safety and operational needs of the railroad industry dictate that the railroads have instant access to clear, contiguous channels, and that they have a role in determining which other users have access to railroad radio frequencies.[5/]

It is for these reasons that the railroad industry has opposed various proposals to consolidate the frequencies comprising the Railroad Radio Service with those of other user groups -- proposals that would allow railroad frequencies to be shared, without any prior coordination by and with the railroad industry, by non-railroad users. The record in this proceeding is replete with substantial evidence -- competent evidence from entities charged with official responsibility for railroad safety -- that profligate sharing of railroad frequencies by non-railroad users will lead to unsafe conditions. The National Transportation Safety Board, the Federal Railroad Administration and the railroads themselves are all on record in this proceeding regarding the risks to safety inherent in the consolidation of the railroad channels into a large pool of frequencies accessible by non-railroad users.

II. ITA's BLUEPRINT DOES NOT ADEQUATELY PROTECT RAILROAD FREQUENCIES

ITA -- an entity that is not responsible for railroad safety -- has offered a plan that purports to overcome the rail industry's concerns about protection of the railroad frequencies. ITA's Blueprint calls for special treatment of existing railroad frequencies in

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5/ See Comments of the Association of American Railroads to the Further Notice of Proposed Rulemaking in PR Docket No. 92-235, filed November 20, 1995, at 13.

order to "preserv[e] the integrity of railroad operations."[6/] However, ITA's proposal does not ensure that railroads will be able to operate their critical communications systems free from harmful interference. The railroads make very intensive use of their allocated spectrum. In major metropolitan areas, all available spectrum is employed by railroads to ensure the safe operation and management of passenger and freight trains.[7/] In these and other areas, clear channels must be immediately available to railroads at all times in order to respond to emergency situations and to allow radio-based safety detectors, such as trackside defect detectors, to transmit warnings in the event hazardous conditions are detected. These operations must receive greater protection from harmful interference than is provided under the "protection plan" of ITA's Blueprint.

ITA has proposed a five-year protection plan consisting of two parts. The first part involves the top 50 "urbanized areas," in which all pre-refarming railroad frequencies and all narrowband channels created from those frequencies as a result of refarming would be reserved for railroad-only use in a geographic area defined by a 50-mile radius around the center of each of the top 50 metropolitan areas. Second, in areas outside the top 50 "urban centers," existing railroad transmitter sites would be treated as Protected Service Areas ("PSAs") and would be protected at the 37 dBu contour for frequencies in the 150-174 MHz band and the 39 dBu contour for UHF frequencies.

6/ Blueprint at 2.

7/ See Frequency Coordinator Certification of Chris Allman, Association of American Railroads, attached hereto as Exhibit A.

A. The Geographic Scope of the Blueprint's "Protection" for Railroad Frequencies Provides Railroads With Inadequate Protection

The railroad industry's first objection to the ITA proposal concerns the inadequacy of the geographic area proposed for "protection." The mileage approach (50-mile radius in the top 50 cities) and the 37/39 dBu contour approach both fail to take into account the interference effects of anomalous propagation. It is not uncommon for railroads to experience interference caused by ducting and other atmospheric conditions, particularly in the VHF band. Anomalous propagation interference is usually experienced from stations well beyond the 50 mile or 37/39 dBu contour protection limits proposed by ITA. Under the present channel assignment plan, whenever such conditions occur (and they do occur rather frequently), the interfering source is almost always another railroad transmitter, and the source can be readily identified and steps taken to eliminate the problem.[8/] Because the railroad mobile communications system is a nationwide interoperable system involving all railroads, there is a common interest in resolving interference problems immediately.[9/] That incentive would not and could not exist if railroad channels were shared with non-railroad entities such as taxicabs, agribusiness

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8/ Under the present interservice sharing procedures (Section 90.176), any non-railroad user must be coordinated in advance by the railroads themselves. By virtue of that process, an interfering user's identity is in the railroads' database and can be ascertained by the railroads. The task of identifying an interfering non-railroad user under ITA's approach would be time consuming and difficult; the result would be the continuation of harmful interference -- and consequent unsafe operating conditions -- for an extended period of time.

9/ Comments of the Association of American Railroads to the Further Notice of Proposed Rulemaking in PR Docket No. 92-235, filed November 20, 1995, at 21.

operators, and others whose identity and location would be much more difficult to ascertain and who (because they do not share a common mission) would not be as willing to cooperate in shutting down a transmitter during anomalous atmospheric conditions.

The ITA plan also fails to account for the interference effects of normal, line of sight propagation. Harmful interference can occur with normal line of sight propagation well beyond the 50 mile or 37/39 dBu contour protection limits proposed by ITA.[10/] The propagation maps attached hereto as Exhibits B-1 through B-6 demonstrate that the 50-mile protection proposal will not adequately protect railroad mobile radio systems from harmful interference because the interfering signals of non-railroad users could travel much farther than 50 miles. The horizontal-shaded areas on these maps represent those areas which are protected from the signal of the non-railroad transmitter; the unshaded areas on the maps represent areas that are unprotected -- i.e., subject to interference from the non-railroad signal. The concentric circles represent the distance in miles from the non-railroad transmitter site. For each of the propagation maps, different variables were assumed regarding the railroad mobile station and the non-railroad proposed sites. A summary of the variables is provided in Exhibit B-7. All of the interfering non-railroad transmitter sites in the Exhibits were chosen randomly.

The plot in Exhibit B-1 is for an area in Nebraska, which represents a relatively flat terrain environment. There are areas at distances in excess of 135 miles where a locomotive on the railroad track extending from U.S. Route 30 and going through Sydney

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10/ See propagation maps attached hereto as Exhibits B-1 through B-6.

would be susceptible to interference from the non-railroad signal (Reference Point A on Exhibit B-1).

The plots in Exhibits B-2 through B-4 are for an area near the Texas-Louisiana border, a heavily wooded area with hilly terrain. Again, similar coverage effects can be seen. For example, in Exhibit B-2, a significant area of the railroad paralleling U.S. Route 167 would be subject to harmful interference at a distance of more than 75 miles from the non-railroad interfering station (Reference Point B). In Exhibit B-4, criteria from the "safe harbor" table included in the Refarming Report & Order and FNPRM[11/] was considered, including an assumed ERP of 500 Watts for the non-railroad transmitter, resulting in areas of interference in excess of 135 miles from the station (Reference Point C).

The plots in Exhibits B-5 and B-6 represent the effects of a non-railroad station near the Kansas-Colorado Border. Exhibit B-5 represents another application of the "safe harbor" criteria and demonstrates that there are areas of interference along railroads north and south of Pueblo at a distance greater than 120 miles from the non-railroad base station (Reference Points D and E).

It is clear from the foregoing that there will be significant harmful interference resulting from installations of non-railroad base stations at or beyond ITA's proposed 50-mile protection zone.

11/ Report and Order and Further Notice of Proposed Rulemaking, PR Docket No. 92-235 (1995) ("Refarming Report & Order and FNPRM").

B. The Blueprint's Contour-Specific "Protection" Proposal Fails to Protect Existing and Future Railroad Frequencies for Railroad Use

The railroad industry's second objection to the ITA plan pertains to the "protection" afforded to railroad transmitters outside the top 50 markets. ITA's plan would grant a contour-specific protection zone to railroad transmitters licensed as of the date of the consolidation decision, but only with respect to the frequency of each particular transmitter -- instead of all frequencies assigned for railroad use.

One of the key features of railroad mobile radio systems is the need for nationwide interoperability of equipment. Trains moving from coast-to-coast and from urban centers to remote regions must be able to access the proper frequencies wherever they travel. As a result, the railroads have a need -- unique among all PLMR users -- for an integrated nationwide[12/] system that services traffic in all geographic areas where trains operate. The railroads are presently engaged in centralized planning for the next generation of mobile radio systems in the post-refarming environment, and it is essential for planning and design purposes (not to mention future operational purposes) that the railroads have assured access to all frequencies needed in all locations. The ITA plan would take away that assurance by allowing non-railroad users to deploy within the zone of each railroad base station frequencies that presently are in the Railroad Radio Service, thus precluding the use of multiple frequencies in the future by a multi-frequency trunked railroad radio

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12/ Indeed, the railroad mobile radio systems in North America are international in scope. The Canadian railroads also operate on Railroad Radio Service frequencies, and require interoperability across the Canada-U.S. border. The ITA Blueprint fails to take into account the need for a seamless international transportation infrastructure involving U.S. and Canadian railroads.

system. Such a development would significantly diminish the ability of the railroad industry to take advantage of refarming benefits of additional channels and new technology.

But even if all channels in the Railroad Radio Service were to be "protected" at each location of an existing railroad base station, ITA's plan would still not provide adequate protection from harmful interference. In its proposed Limitation 16 applicable to railroad frequencies,[13/] ITA stated that "the existing 37 dBu (VHF) or 39 dBu (UHF) contour of railroad common carrier systems licensed prior to January 1, 1997, shall be recognized as a Protected Service Area (PSA)." In its narrative explanation accompanying the Blueprint, ITA stated that "frequency coordinators would protect the existing sites within the applicable" 37 or 39 dBu contours. Although ITA did not specify what it meant by "protect," it is presumed that the "protection" would be such that the equivalent contour (i.e., 37 dBu for VHF or 39 dBu for UHF) of a non-railroad transmitter could not overlap the relevant contour of the railroad system. As set forth in the attached certification and declaration of the professional frequency coordinator responsible for railroad radio systems, such protection is no protection at all, and would result in harmful interference to mobile radio reception in locomotives travelling in the vicinity of the adjacent contours.[14/] In other words, the ITA proposal for PSAs will not afford "protection" for

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13/ ITA January 21 "Blueprint," at Enclosure B, page B-2.

14/ See Frequency Coordinator Certification of Chris Allman, Association of American Railroads, attached hereto as Exhibit A. The railroad industry participates as a member of the Land Mobile Communications Council (LMCC) which, as noted by ITA, advocated the concept of "Protected Service Areas." The railroad industry has not embraced the concept of PSA's for the reasons set forth herein. In this regard,

sensitive railroad communications, but instead will result in harmful interference which could lead to unsafe operating conditions throughout the Nation's railroad system.

C. The Blueprint's Five-Year Limitation on "Protection" for Railroad Frequencies is Unjustified and Inconsistent With Proposed Protections of Other Critical Services

Pursuant to the ITA Blueprint, the "protection" proposed for railroad systems (both in the top 50 metropolitan areas and outside of these areas) would end after five years. ITA did not give a reason for the five year limit, except for the vague statement that, "perhaps [railroad] operations require an initial period of time for transition to new technologies." As the Commission is aware, the railroad industry's concern about consolidating the use of railroad channels with non-railroad users is safety-related -- harmful interference resulting from co-channel or adjacent-channel operations can have disastrous consequences, given that the railroad mobile radio systems are used extensively for controlling and monitoring train movements -- and these risks and hazards will not go away in five years. Nor will the laws of physics change in five years, and there is no technology presently on the horizon that will eliminate the possibility of co-channel and adjacent-channel interference five years hence.

Furthermore, ITA's proposal to eliminate the protection afforded the Railroad Radio Service after five years is inexplicably inconsistent with its proposals to provide special

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the LMCC comments filed in this proceeding on November 20, 1995, which were attached as Enclosure D to ITA's January 21 filing, specifically noted that individual members of LMCC will file their own comments in which they elaborate on their specific positions and explain any differences from the approaches recommended in these Comments." LMCC Comments filed November 20, 1995 at n. 2 (emphasis added).

protection to other critical PLMR services. Recognizing the need for safe airport operations, the ITA Blueprint preserves the 40 frequency pairs in the 460-465 MHz range that are currently reserved for air transportation carriers operating within 50 miles of specified airports -- with no time limit on the protection. Similarly, the Blueprint recognizes the need of petroleum and pipeline companies to have immediate access to frequencies to respond to disasters and emergencies involving their facilities and proposes to redesignate eight frequency pairs currently allocated for shared maritime/industrial use for exclusive emergency response communications requirements -- again with no time limit for the protection.

The railroads agree that airport operations and pipeline emergency response are critical services that deserve special protection. But ITA has failed to explain why the protections for those services are of indefinite duration while the railroads' protections are limited to five years. If the frequencies in the Railroad Radio Service deserve special protection -- which ITA has conceded they do -- they should be given special protection indefinitely, just like the other special situations recognized by ITA.[15/]

III. THE COMMISSION SHOULD ADOPT THE RAILROADS' PROPOSED RAILROAD FREQUENCY TABLE

ITA included a new limitation in its suggested Frequency Table Limitations to implement the protections it proposed for railroad PLMR services. To implement the

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15/ The railroad industry is satisfied with approach proposed by ITA for frequencies used for remote control of locomotives at 452.925 through 452.96875 MHz and 457.925 through 457.96875 MHz. The railroads note that for these frequencies, ITA has proposed railroad-only eligibility, with no time limitation.

changes to ITA's proposal described in these Comments, the railroads suggest that Limitation 16 be applied to all railroad channels, existing and new, and that it be modified to read as follows:

> This frequency will be assigned only to railroad common carriers that are regularly engaged in the transportation of passengers and property when such passengers or property are transported over all or part of their route by railroad for transmission of communications and to assure safety of operations essential to such activities of the licensee, provided, however, that non-railroad entities may apply to use this frequency upon making the following showing: (1) a determination by a qualified frequency coordinator that there are no other satisfactory frequencies available within the applicant's area of desired operation; (2) a statement from a frequency coordinator having responsibility for coordination of this frequency concurring in its assignment in the manner requested by the application, provided that, in cases where concurrence is not given, the coordinator of this frequency must provide an explanation why the requested sharing is inappropriate and; (3) a statement that the proposed use of the frequency will not violate any of the technical limitations applicable to use of the frequency.

Modification of Limitation 16 as set forth above will preserve the status quo regarding railroad land mobile frequencies by reserving them for railroad-only use except in situations where non-railroad users have obtained the prior concurrence of the railroad users through the coordination process.[16/] The proviso in the proposed footnote quoted above will preserve the opportunity for sharing railroad frequencies in a manner identical to that which has existed heretofore under the Commission's present interservice sharing rule, Section 90.176.[17/] Through the inter-service sharing process, the railroads have

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16/ As described below, the railroads have accommodated numerous frequency sharing requests from other non-railroad users.

17/ Attached as Exhibit C is a listing of the railroad frequencies accompanied by the footnote limitations applicable to each of them, as described in these Comments.

allowed hundreds of non-railroad users to operate on railroad channels in locations where there are no railroad operations and safety will not be jeopardized.[18/] Over a six year period between 1989 and 1995, the railroads received 567 inter-service requests for railroad channels, of which they granted 360, an acceptance rate of over 63%.[19/] Overall, more than 390 non-railroad entities accounting for approximately 745 fixed radio transmitters and over 24,000 mobile transmitters, are currently operating on radio channels allocated to the railroads.[20/] This process maximizes spectrum efficiency and helps prevent disruption to railroad safety-related communications.

In summary, the modification of ITA's Limitation 16 as set forth above will give critical railroad mobile communications the level of protection they need against harmful interference from non-railroad users, while, at the same time, enabling the continued efficient use of spectrum through properly safeguarded interservice sharing procedures.

18/ See Rail Safety: Hearing Before the Committee on Commerce, Science and Transportation, 104th Cong., 1st Sess. (1995) (Response for the Record of Edwin L. Harper, President and Chief Executive Officer, Association of American Railroads).

19/ These numbers reflect formal, written requests for railroad channels.

20/ Of the 745 fixed transmitters, 630 are in the continental United States, 64 are in Alaska, and 51 are in Puerto Rico and the Virgin Islands. Of the 24,510 mobile transmitters, 19,186 are in the continental United States, 5,224 are in Alaska, and 100 are in Puerto Rico and the Virgin Islands.

IV. CONCLUSION

The need to maintain the Railroad Radio Service as a distinct group of frequencies has been recognized by the Federal Railroad Administration[21/] and the National Transportation Safety Board[22/] -- agencies expert in transportation and railroad safety issues. The NTSB, which regularly investigates and makes official recommendations on safety measures and practices, emphasized that consolidation of the railroad channels with those of non-railroad users would result in an increased risk of co-channel and adjacent channel interference, concluding that consolidation "would have serious negative consequences for railroad safety."[23/] The FRA echoed this point: "[t]he Commissions's [channel] consolidation proposal will endanger safety by compromising the very tools the railroad industry relies on to preserve safety. It will result in increased interference to critical railroad communications and will add to the complexity of the railroad radio equipment. The continued authorization of the Railroad Radio Service [channels] is imperative."[24/]

As the railroads have demonstrated throughout the refarming proceeding, it is imperative that the frequencies currently allocated to the Railroad Radio Service be

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21/ See Letter From Jolene M. Molitoris, Administrator, Federal Railroad Administration, to Reed Hundt, Chairman, Federal Communications Commission (Dec. 12, 1995) ("FRA Letter"). A copy of the FRA Letter is attached hereto as Exhibit D.

22/ See Letter From Jim Hall, Chairman, National Transportation Safety Board, to Reed Hundt, Chairman, Federal Communications Commission (Dec. 15, 1995) ("NTSB Letter"). A copy of the NTSB Letter is attached hereto as Exhibit E.

23/ NTSB Letter at 1-2.

24/ FRA Letter at 2.

preserved for railroad use following any consolidation of the PLMR service pools. While the railroads applaud ITA for taking the initiative to develop and present its Blueprint and commend it for recognizing the legitimate need of the railroad industry to be protected from harmful interference, the railroads respectfully submit that, for the reasons set forth herein, ITA's suggested protections are inadequate to preserve the safety of railroad communications and request that the recommendations set forth herein be adopted.

Respectfully submitted,

AFFILIATED AMERICAN RAILROADS

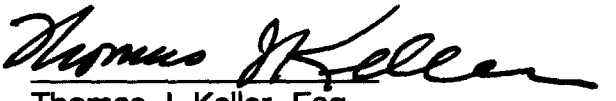
By: 

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EXHIBIT A

FREQUENCY COORDINATOR CERTIFICATION

I, Chris Allman, hereby declare and certify as follows:

1. I am the Director of Railroad Radio Services for the Association of American Railroads, in which capacity I serve as the frequency coordinator for all frequencies designated in the "Railroad Radio Service" pursuant to Section 90.91 of the FCC rules and regulations. I hold a B.S. degree in Electrical Engineering, have been Railroad Frequency Coordinator for over twelve (12) years and as such I am intimately familiar with railroad mobile radio systems.

2. The 91 VHF channels currently specified in Section 90.91 of the rules, between 160.215 MHz and 161.565 MHz, which are allocated exclusively to railroad operations. These comprise the principal frequencies used by the railroad industry in North America (U.S. and Canada) for the mobile radio communications system used for authorizing train movements and directing railroad personnel and equipment on and near railroad rights-of-way.

3. There are no VHF channels in the Railroad Radio Service which are not already licensed for use by eligible railroad entities at locations in or near the major population centers of the U.S. In fact, there is pent-up demand for additional frequencies for use by railroads in these locations, subsequently the additional channels created by the FCC "refarming" proceeding will be utilized by the railroad industry for mobile radio communications in these locations.

4. I am familiar with the ITA "technical blueprint" filed in FCC Docket No. 92-235 on January 21, 1997, and have read the section entitled "Special Provisions to Protect Railroad Operations." In my opinion, the ITA proposal to protect railroad mobile operation with a 37 dBu contour for VHF frequencies and 39 dBu contour for UHF frequencies will not provide adequate protection for railroad communications. This is because the ITA proposal would allow a non-railroad transmitter to place its own 37 dBu contour immediately adjacent to the 37 dBu contour of a railroad transmitting station. In such a situation, a radio receiver in a locomotive travelling near the fringe of the contour, in the vicinity of the adjacent contour, would experience destructive interference because of the lack of sufficient differential in RF energy coming into the locomotive radio receiver. Such interference could be extremely disruptive to the safe movement of the train along the railroad right-of-way.

The foregoing statements are true and correct to the best of my knowledge, information and belief.

Chris L. Allman
February 7, 1997

EXHIBITS B-1 THROUGH B-6

Propagation Maps

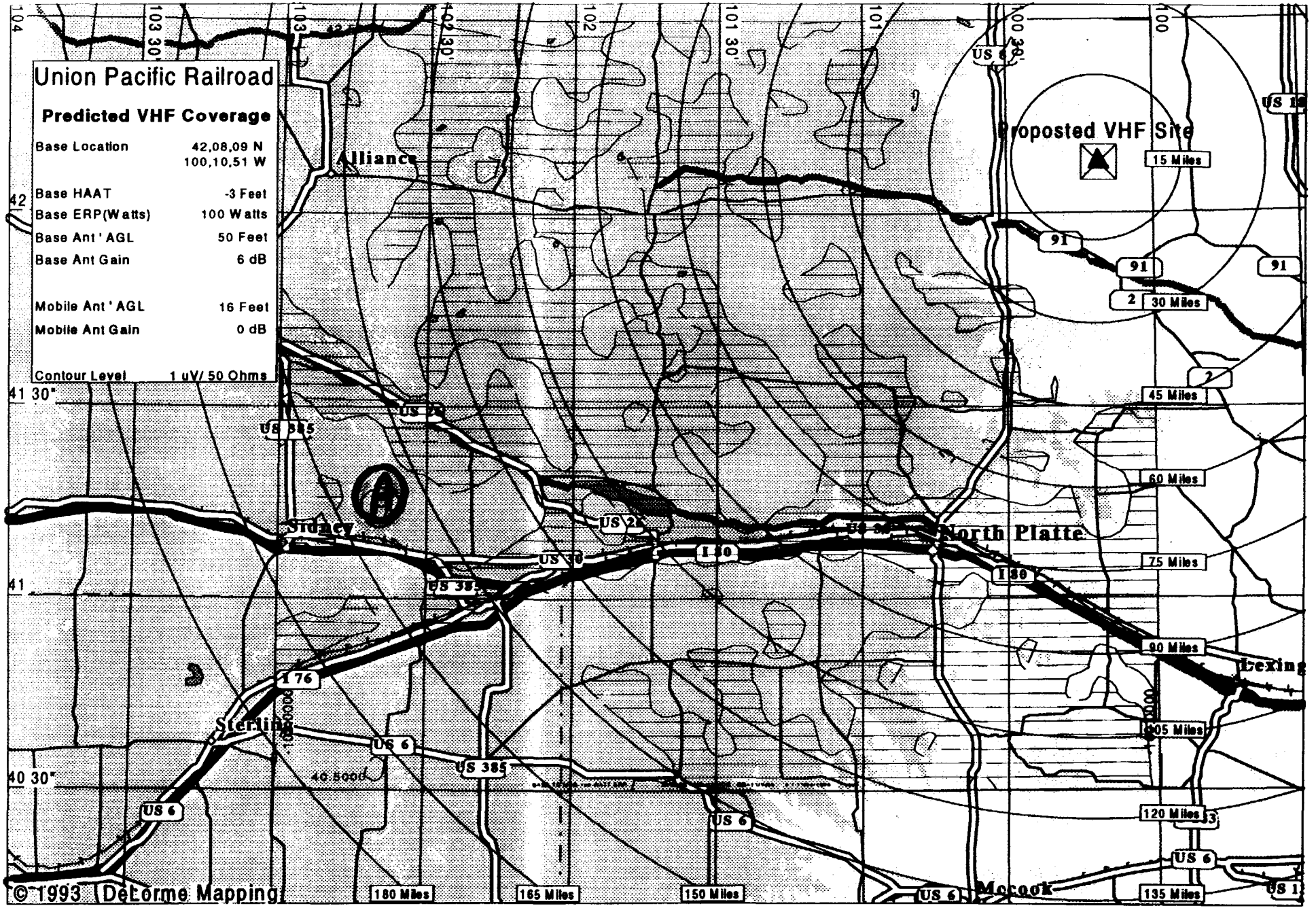

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Exhibit B-1

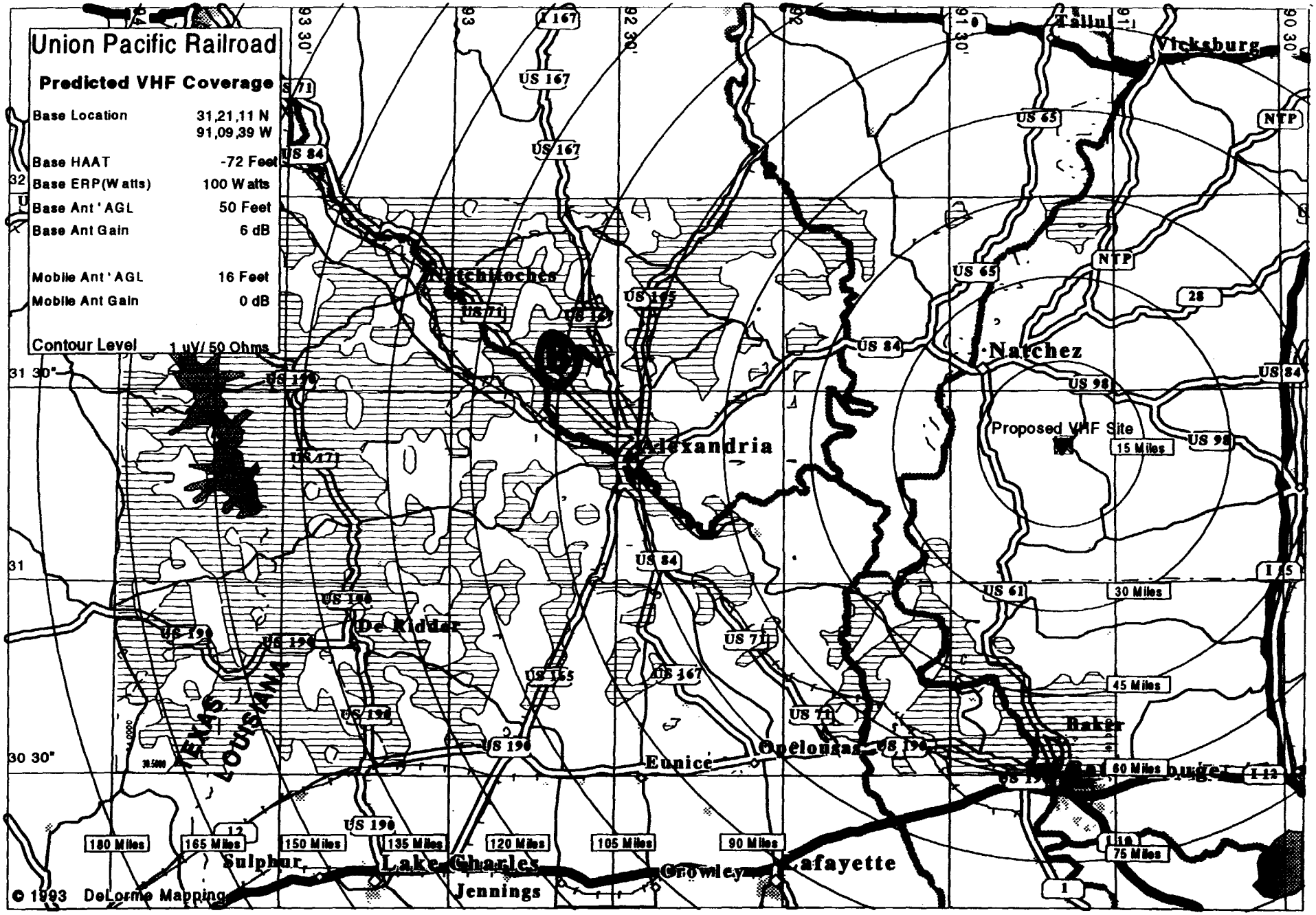
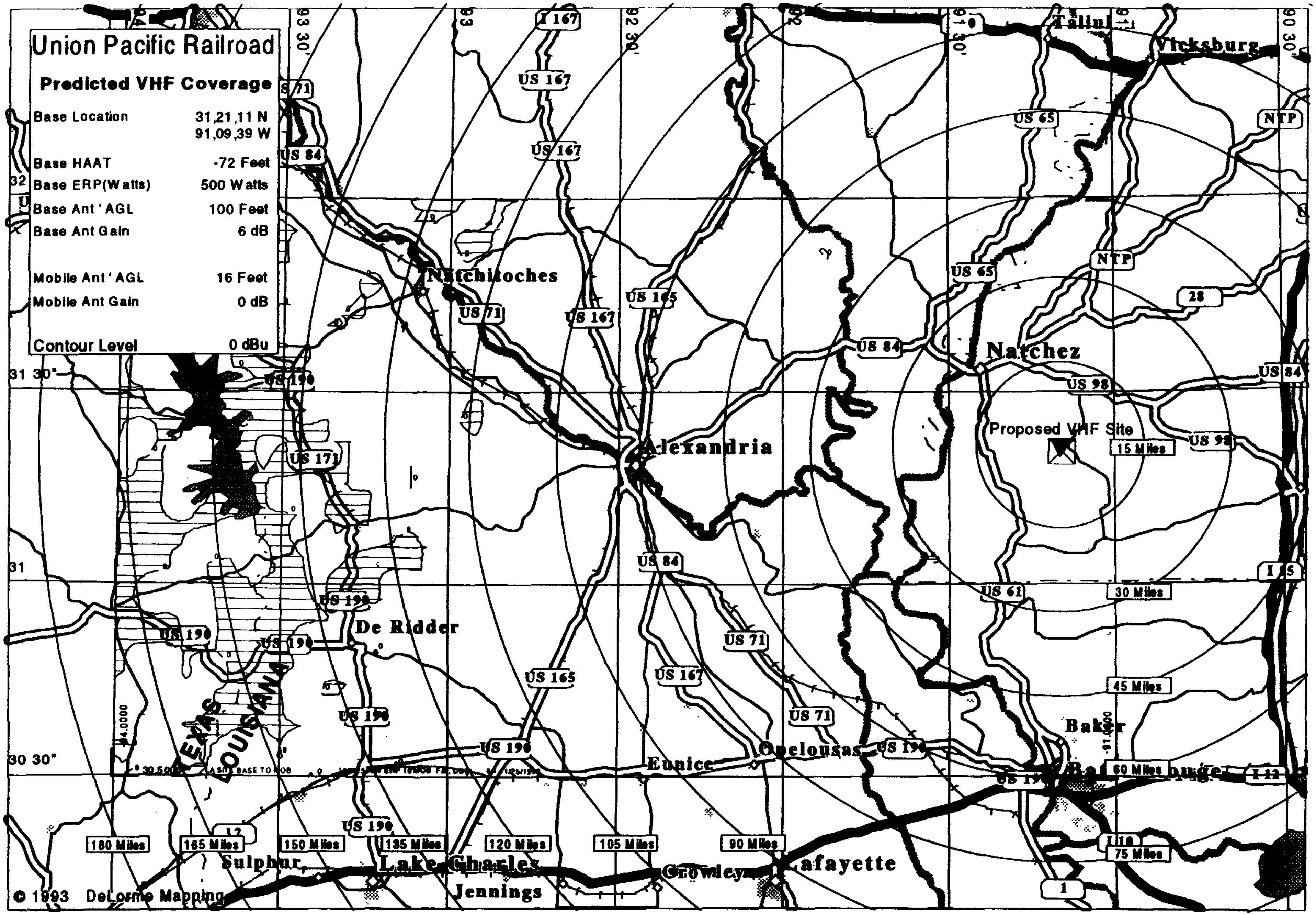

Union Pacific Railroad
Predicted VHF Coverage
Base Location 31,21,11 N 91,09,39 W
Base HAAT -72 Feet
Base ERP(Watts) 100 Watts
Base Ant 'AGL 50 Feet
Base Ant Gain 6 dB
Mobile Ant 'AGL 16 Feet
Mobile Ant Gain 0 dB
Contour Level 1 uV/ 50 Ohms
Natchitoches
Alexandria
De Ridder
Eunice
Opelousas
Lake Charles
Jennings
Sulphur
Crowley
Natchez
Vicksburg
Tallulah
Proposed VHF Site
15 Miles
30 Miles
45 Miles
60 Miles
75 Miles
90 Miles
105 Miles
120 Miles
135 Miles
150 Miles
165 Miles
180 Miles
TEXAS
LOUISIANA
© 1993 DeLorme Mapping

Exhibit B-2


Union Pacific Railroad
Predicted VHF Coverage
Base Location 31,21,11 N 91,09,39 W
Base HAAT -72 Feet
Base ERP(Watts) 500 Watts
Base Ant'AGL 100 Feet
Base Ant Gain 6 dB
Mobile Ant'AGL 16 Feet
Mobile Ant Gain 0 dB
Contour Level 0 dBu
Proposed VHF Site
15 Miles
30 Miles
45 Miles
60 Miles
75 Miles
90 Miles
105 Miles
120 Miles
135 Miles
150 Miles
165 Miles
180 Miles
Natchitoches
Alexandria
Natchez
Vicksburg
De Ridder
Eunice
Opelousas
Sulphur
Lake Charles
Jennings
Crowley
Lafayette
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LOUISIANA
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Exhibit B-3